REMARKS

1. In the application, claims 1-14 and 16-30 are pending. In this amendment, claim 16 has been cancelled without prejudice, and claims 14 and 18 have been amended.

A marked-up version of the rewritten claims is attached hereto.

2. In the Office Action, the Examiner has rejected claims 1-4 and 10-11 under 35 U.S.C. § 103(a) over U.S. Patent No. 5,881,103 to Wong et al. ("Wong") in view of U.S. Patent No. 6,028,892 to Barabash et al. ("Barabash"). The Applicants respectfully note that Wong and Barabash have been combined improperly. References may be combined under 35 U.S.C. § 103(a) only if the references are analogous art. In this case, Barabash is not analogous art. A reference is analogous art if:

1) The reference is in the same field of endeavor as the applicants', or

2) The reference is reasonably pertinent to the particular problem with which the applicant was concerned.

Barabash is directed to simultaneous transmission of data and voice, which is not in the same field as the Applicants' invention. Barabash discloses a radio telephone system providing a voice channel for carrying voice signals between a mobile unit and a called or calling unit. A first modem in the mobile unit and a second modem connected to a point along the voice channel employ a "blank-and-burst" method of communication to provide a data channel between a first data device connected to the mobile unit and a second data device connected to the second modem. The data channel enables the data devices to

communicate with each other seemingly concurrently, and with minimal interference, with the voice signals that are being carried over the voice channel and without requiring modifications to any base station.

On the other had, Applicants' invention is directed to setting audio parameters controlling processing in a digital signal processor in an electronic device, as recited in claim 1 of the present application. Applicants also address problems relating to ensuring reliable transfer of the audio parameters with two-way communication, programatically varying the number of audio parameters set for the digital signal processor, and effectively preventing erroneous detection of an auxiliary device with full handshaking in the beginning of the two-way communication ("AUDIO_PARAMETERS_SUPPORT" message). These objectives are not achieved or considered in Barabash, or in Wong.

In fact, Applicants' invention aims at providing the audio parameters at the most suitable location for each accessory device (either at the main device memory or by the accessory). Wong discloses distributing the audio parameters with the accessory. However, Wong does not disclose two-way communication of data, as acknowledged by the Examiner in paragraph 3 of the Office Action. The advantages of the present invention, namely those arising from the fact that two-way data communication is carried out between the accessory and the main device, cannot be achieved by the solution of Wong.

Moreover, the operation according to the present invention, as described on pages 9-11 of the present application, is far more robust and flexible than the method provided by Wong. Indeed, the approach described in the invention has proven to be commercially successful, even to a greater extent than the

method disclosed in Wong. The invention has therefore fulfilled the need for arranging a communication of audio parameters, as shown in Applicants' disclosure (See page 3 of the present application).

A case of obviousness requires some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure. It is not enough for obviousness to argue that the two technologies of Wong and Barabash were known at the time of the application, since the skilled person lacks the motivation to solve the problem of providing audio parameters to the electronic device by the same means as the present application presents. In other words, if there is no specific teaching as to why a certain solution would be beneficial in certain types of problems, arguing obviousness is a result of impermissible hindsight reasoning, and unallowable as such.

"A patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part of the 'subject matter as a whole' which should always be considered in determining the obviousness of an invention under 35 U.S.C. § 103." In re Sponnoble, 160 U.S.P.Q. 237, 243 (CCPA 1969). The present application discovers and remedies the problem of ensuring reliable transfer of audio parameters for setting the audio parameters controlling processing in a digital signal processor in an electronic device, which Barabash does not address. Since Barabash is not in the same field of endeavor as

the Applicants' endeavor and is not reasonably pertinent to the particular problem with which the Applicants were concerned, Barabash is not analogous art. Therefore Barabash may not be properly combined with Wong.

Moreover, the Examiner has not shown why the skilled person would even recognize the problems of Wong of preventing erroneous detection of the auxiliary device, and ensuring reliable transfer of the parameters, and has not shown that the skilled person would come to the conclusion that two-way data communication between the devices would solve or mitigate the problems. At the time of the invention, arranging a two-way digital data communication between two small devices was not an obvious solution. This is reflected in the approach of Wong, where a respected company operating in the same business as the Applicants has resorted to one-way digital communication, when confronted with a similar type of a problem, resulting in an effectively passive accessory device, as disclosed in Wong.

Thus Wong in view of Barabash does not establish a prima facie case of obviousness under 35 U.S.C. § 103(a). Therefore claim 1, and claims 2-4 and 10-11 which depend directly or indirectly from claim 1, should be allowed.

3. In the Office Action, the Examiner has rejected claims 5-9 and 12-13 under 35 U.S.C. § 103(a) over Wong in view of Barabash. The remarks set forth in paragraph 2 for claim 1 also apply to claim 5. Thus, Wong in view of Barabash does not establish a prima facie case of obviousness under 35 U.S.C. § 103(a). Therefore, claim 5 should be allowed. Since claims 5-9 and 12-13 depend directly or indirectly from claim 5, they should also be allowed.

4. In the Office Action, the Examiner has rejected claims 14-17, 23, 24 and 27 under 35 U.S.C. § 103(a) over Wong in view of U.S. Patent No. 5,414,751 to Yamada. Wong does not teach or suggest a method for setting audio parameters in a digital signal processor in an electronic device comprising at least one auxiliary device connection for connecting at least one auxiliary device, wherein at least some of the audio parameters are loaded into the digital signal processor during operation of the electronic device from a writeable mass storage separate from said processor, the writeable mass storage being disposed within the electronic device, as recited in claim 14 of the present application. As noted by the Examiner in paragraph 5 of the Office Action, Wong does not teach or suggest a writeable mass storage separate from the processor, the writeable mass storage being disposed within the electronic device, as recited in claim 14 of the present application.

In contrast, Wong solves the problem of providing audio parameters for an accessory device to the electronic device by storing them on the accessory device. The approach of Wong is motivated in the description of prior art by the fact that the matching of accessories and electronic devices is problematic, if the electronic device tries to anticipate the audio parameters for different accessories. In the present application, as recited in amended claim 14, at least some of the audio parameters are loaded into the digital signal processor during operation of the electronic device from a writeable mass storage separate from the processor. The audio parameters can be loaded into the digital signal processor when an auxiliary device is connected or detached from the electronic device, as recited in claim 14 of the present application. Wong does not load parameters upon the detaching of an auxiliary

device, or load parameters when the auxiliary device changes its audio mode, as recited in claim 14.

Yamada does not teach or suggest that the audio parameters are loaded at the stage when the auxiliary device (11) is connected to or detached from the electronic device (1) or when the auxiliary device (11) changes its audio mode, as recited in claim 14 of the present application. In contrast, Yamada discloses loading a program for the digital signal processor when an update request has initiated by the operator of the electronic device. Yamada does not teach or suggest the loading of audio parameters upon a change in audio mode in an auxiliary device, as recited in claim 14 of the present application.

Yamada describes a method for updating the firmware (a computer program) of the electronic device (col. 4, lines 20-32), a method also known from the context of personal computers, where the BIOS can be reloaded from a diskette. However, such programs (even operating systems) are fairly large, in strong contrast with the amount of information transmitted in the Applicants' invention, where only some parameters are exchanged. Moreover, the need for changing such programs arises far more seldom, such as when a new service for the portable telephone apparatus is offered, than the need to change the audio parameters in the present invention, such as the user changing the audio mode or attaching an accessory device.

The combination of Wong and Yamada does not teach or suggest loading of audio parameters upon a change in audio mode in an auxiliary device, or the attachment or detachment of an auxiliary device, as recited in claim 14 of the present application. Any skilled person combining the method of Wong, loading parameters from the accessory device, and the method of

Yamada, upgrading the program of an electronic device, would end up with an electronic device whose programs can be changed and whose audio parameters can be loaded from the accessory by one-way digital communication. "A patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part of the 'subject matter as a whole' which should always be considered in determining the obviousness of an invention under 35 U.S.C. § 103." In re Sponnoble, 160 U.S.P.Q. at 243. Since Yamada does not address the problem of determining when to load the audio parameters, as does the present application, Yamada does not teach or suggest the claimed invention.

If a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims obvious. To come from Wong to the Applicants' invention would require the skilled person to first remove the characterizing feature of Wong (audio parameters located at the accessory), and then to invent (not allowed for skilled persons during an obviousness determination) changing the audio parameters in response to a change in the audio mode (attach, detach, other change), and not by user operation as in Yamada (See col. 3, lines 58-66). As this modification would alter the principle operation of Wong, the teachings of the Wong and Yamada are not sufficient to render claim 14 obvious.

In light of the above, obviousness is arguable only on the basis of the specific teaching that certain types of problems are best solved by some specific method that is used against the

inventiveness of the claimed invention. Furthermore, since neither Wong nor Yamada teach or suggest loading audio parameters into a digital signal processor upon the change in audio mode or upon detaching an auxiliary device, their combination cannot do so. The Applicants therefore request the Examiner to reconsider the arguments regarding claim 14 and allow claim 14 and depending claims 15-17, 23, 24 and 27.

5. In the Office Action, the Examiner has rejected claims 18-22, 25, 26 and 28 under 35 U.S.C. § 103(a) over Wong in view of Yamada. The remarks set forth in paragraph 4 for claim 14 also apply to claim 18. Since neither Wong nor Yamada teach or suggest loading audio parameters into a digital signal processor upon the change in audio mode or upon detaching an auxiliary device, their combination cannot do so. The Applicants therefore request the Examiner to reconsider the arguments regarding claim 18 and allow claim 18 and depending claims 19-22, 25, 26, and 28.

6. Claims 29 and 30 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Wong in view of U.S. Patent No. 5,418,837 to Johansson et al. Claim 29 depends from claim 1, and claim 30 depends from claim 5. Since claims 1 and 5 are allowable for at least the above reasons, claims 29 and 30 should also be allowed.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

A check in the amount of $110 is enclosed for a one month extension of time. The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

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Marked Up Claim(s)

14. (Twice Amended) A method for setting audio parameters in a digital signal processor (4) in an electronic device (1) comprising at least one auxiliary device connection (10) for connecting at least one auxiliary device (11), wherein at least some of the audio parameters are loaded into the digital signal processor (4) during operation of the electronic device (1) at a stage when the auxiliary device (11) is connected to or detached from the electronic device (1), or when the auxiliary device (11) changes its audio mode, from a writeable mass storage (25) separate from said processor (4), said writeable mass storage (25) being disposed within the electronic device (1).

18. (Twice Amended) An electronic device (1) comprising:

a digital signal processor (4) for processing audio signals;

means (22) for storing audio parameters controlling the processing of audio signals in the digital signal processor (4);[, and]

an auxiliary device connection (10) for connecting an auxiliary device (11) with the electronic device (1); and [,]

wherein the electronic device (1) comprises further means for loading the audio parameters at a stage when the auxiliary device (11) is connected to or detached from the electronic device (1), or when the auxiliary device (11) changes its audio mode, into the means (22) for storing the audio parameters from a writeable mass storage (25) separate from said processor (4), said writeable mass storage (25) being disposed within the electronic device (1).